UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

CENTER FOR BIOLOGICAL DIVERSITY, No. C 02-5065 JL

Plaintiff,

v. **TEMPORARY RESTRAINING ORDER**

NATIONAL SCIENCE FOUNDATION,

Defendant.

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Plaintiff filed its complaint in this action on October 18, 2002 and on October 21 filed its Motion for a Temporary Restraining Order. The Defendant filed its Opposition and Plaintiff filed a Reply. The matter came on for hearing October 28, 2002. Brendan R. Cummings and Brent R. Plater, Center for Biological Diversity, appeared for Plaintiff. James A. Coda, Assistant U.S. Attorney, appeared for Defendant. Ann Navaro and Mark Brown, Department of Justice, Washington, D.C. were on the briefs. Anita Eisenstadt, National Science Foundation, was of counsel.

This court has federal question jurisdiction over Plaintiff's claim that Defendant violated the National Environmental Policy Act ("NEPA"), 42 U.S.C. §4321 *et seq*., and the Marine Mammal Protection Act ("MMPA"), 16 U.S.C. §1361 *et seq.*

Venue in federal court is wholly statutory. 28 U.S.C. §1391(e)(3) provides that a civil action in which a defendant is an officer or employee of the United States or any agency

thereof acting in his official capacity or under color of legal authority, or an agency of the United States, or the United States, may, except as otherwise provided by law, be brought in any judicial district in which the plaintiff resides if there is no real property involved in the action. Plaintiff the Center for Biological Diversity has an office in Berkeley, within the Northern District of California.

To be entitled to a temporary restraining order, the moving party must demonstrate either (1) a combination of probable success on the merits and the possibility of irreparable harm; or (2) that serious questions are raised and the balance of harm tips sharply in favor of the order. *Idaho Sporting Congress, Inc. v. Alexander*, 222 F.3d 562, 565 (9th Cir. 2000). In consideration of Plaintiff's Motion for a Temporary Restraining Order and after reviewing the moving and opposing papers and hearing the presentations of counsel, this court finds that Plaintiff has met its burden of showing both likelihood of success on the merits and the possibility of irreparable harm.

Plaintiff asks the court to enjoin the National Science Foundation from continuing its acoustical research in the Gulf of California. A research vessel, the *R/V Maurice Ewing*, staffed by scientists from Columbia University, has been using an array of twenty airguns to fire extremely high energy acoustic bursts into the ocean to generate geophysical data in the Gulf of California. Seismic airguns produce explosions of air at regular intervals every ten seconds. They produce sound waves which travel into and through the seabed. By measuring the waves as they bounce back, the scientists can develop information about the structure of the sea floor and the underlying rock and sediments and data about the rifting of the continental lithosphere where the Pacific and North American plates meet in the Gulf of California.

The sound from the airguns is as high as 263 decibels (dB) [1] at the source. This research is taking place in the Gulf of California, an environmentally sensitive area, home to a number of species of marine mammals, including blue whales, sei whales and fin whales, which are endangered. These levels are significantly higher than 180 dB, which is acknowledged by the Government to cause significant injury to marine mammals.

At least two Cuvier beaked whales (*Ziphius cavirostris),* a species particularly susceptible to acoustic trauma, stranded and died on Isla San Jose in the Gulf of California on September 24, 2002, close to where Defendant was conducting airgun blasting.

On or about September 30, the vessel temporarily suspended its airgun operations. On or about October 7, the vessel resumed airgun operations, planning to continue until approximately November 4.

On October 8, 2002 at the annual meeting of the Marine Mammal Commission in San Diego, testimony was presented about this stranding incident.[2] Scientists employed by the National Marine Fisheries Service ("NMFS") testified that they believed the stranding was related to the actions of the *R/V Maurice Ewing*.

NMFS scientists also testified that given their behavior and the difficulty of visually surveying for beaked whales, none of the mitigation protocols adopted by the *R/V Maurice Ewing* in the wake of the stranding were likely to be beneficial to the whales. These whales tend to dive at the approach of a motor vessel and are thus difficult to detect by an on-deck

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[1] The decibel is "a unit used to express the intensity of a sound wave, equal to 20 times the logarithm of the pressure produced by the sound wave to a reference pressure.. ." (*Webster's Encyclopedic Unabridged Dictionary*, 1996). Each increase of 10 decibels translates into a ten-fold increase in sound energy.

[2] This court accepts as reliable the report of this meeting presented by Plaintiff. The official report will not be available until mid-November

observer. The Gulf of California contains one of the highest known concentrations of beaked whales on Earth.

This court finds that Defendant's activity presents a significant danger of injury to and harassment of marine mammals, which could violate the Marine Mammal Protection Act, 16 U.S.C. §1361 *et seq.* ("MMPA"). The MMPA explicitly prohibits any person or vessel subject to the jurisdiction of the U.S. from "taking" any marine mammals on the high seas. 16 U.S.C. §1372(a)(1); 50 C.F.R. §216.11.

Under the MMPA, the term "take" is broadly defined to mean "to harass, hunt, capture or kill, or attempt to harass, hunt, capture or kill any marine mammal." 16 U.S.C. §1362(13). "Harass" is further defined to include acts of "torment" or "annoyance" that have the "potential" to injure a marine mammal or marine mammal stock in the wild or have the potential to "disturb" them "by causing disruption of behavior patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding or sheltering." Id. at §1362(18); 50 C.F.R. §216.3 (defining "Level A" and "Level B" harassment.

The court finds that the MMPA governs the activities of the scientists on the research vessel, who are mostly American citizens [3] employed on a U.S. Government-funded research project on a U.S. Government-owned vessel. Any injury or harassment to marine mammals in the course of the research project in the Gulf of California, outside the territorial waters of Mexico, would violate the MMPA. *United States v. Mitchell*, 553 F.2d 996 (Fifth Circuit 1977).

[3] There are also some Mexican scientists onboard.

In addition, the project at issue was funded and implemented without an Environmental Assessment ("EA") or Environmental Impact Statement ("EIS") as required under certain circumstances by the National Environmental Policy Act, 42 U.S.C. §4321 *et seq*. ("NEPA").

NEPA is a purely procedural statute. At §4332 it mandates that all agencies of the federal government shall:

(A) "utilize a systematic, interdisciplinary approach which will insured the integrated use of the natural and social sciences and the environmental design arts in decision making which may have an impact on man's environment;

(B) identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by subchapter II of this chapter, which will ensure that presently unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations; and

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, as detailed statement by the responsible official on -

(i) the environmental impact of the proposed action,

(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,

(iii) alternatives to the proposed action,

(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

42 U.S.C. §4332 (A)(B) and ©).

Defendant contends that applying NEPA to a case such as this will hamper enforcement of other statutes and regulations. However, to require an agency like the National Science Foundation to consider the environmental consequences of its decisions made in the United States affecting projects outside the United States but not within the territory of other countries will not affect the enforcement of other statutes and regulations. Defendant has failed to identify any foreign policy implications of the Research Project. It implies that any activities within the Exclusive Economic Zone ("EEZ") of Mexico is beyond the reach of NEPA. [4] This court disagrees. The waters of the Gulf of California are considered as the high seas, rather than the territorial waters of Mexico, for the purposes of U.S. law. [5]

The EEZ of Mexico which extends 200 miles from shore is not considered part of its territorial waters and under U.S. law is considered part of the "high seas" or the "global commons," that is, territory which belongs to all nations but subject to the sovereignty of none. These areas have been explicitly found to be subject to the MMPA and NEPA. *Mitchell,* 553 F.2d at 1004 (American citizen not subject to MMPA for capturing dolphins in the Bahamas,

[4] The concept of an EEZ came into existence after NEPA was enacted.

[5] The high seas are not defined in the Marine Mammal Protection Act. However, in Article 1 of the Geneva Convention on the High Seas, 13 U.S.T. 2312 (1962) understands the term to mean all waters outside the territorial or internal seas of a nation. The Magnuson Fishery Conservation and Management Act defines "high seas" as "all waters beyond the territorial sea of the United States and beyond any foreign nation's territorial sea, to the extent that such sea is recognized by the United States." 16 U.S.C. §1802(13); Coast Guard regulations define the high seas as "all waters which are neither territorial seas nor internal waters of the United Sattes or of any foreign country." 33 C.F.R. §2.05-1(a).

but court noted MMPA jurisdiction over Americans taking marine mammals on the high seas [6]); *Environmental Defense Fund, Inc. v. Massey* , 986 F.2d 528, 529-530 (D.C.Cir.1993). (NEPA applies to decision to incinerate waste in Antarctica, as part of the "global commons," not subject to any nation's sovereignty).

The court finds that imposing the procedural requirements of NEPA does not impinge on the sovereignty of Mexico, since most of the research takes place outside Mexican territorial waters, and the decision making process for funding and planning the project occurred within the United States. *Environmental Defense Fund, Inc. v. Massey* , 986 F.2d at 529-530.

The court therefore finds that Plaintiff has shown a significant likelihood of prevailing on the merits - - that Defendant has violated both the NEPA and the MMPA.

The court next turns to the question of irreparable harm.

IRREPARABLE HARM

"The loudest non-explosive anthropogenic [manmade] noise in the ocean is from airgun arrays used in seismic exploration. There are about 150 seismic vessels operating worldwide this year, with source levels up to 255 dB, and capable of shooting every ten seconds. . ." *Statement of Vice-Admiral Dennis V. McGinn, Deputy Chief of Naval Operations for Warfare Requirements and Programs*, testifying before the Subcommittee on Fisheries Conservation, Wildlife and Oceans of the House Committee on resources, on the Marine Mammal Protection Act and Surveillance Towed Array Sensor System Low Frequency Active

[6] Takings without permits are prohibited only in United States territories and *on the high seas*. *Id.* at 553 F.2d at 1004 (emphasis added).

Sonar (SURTASS) October 11, 2001. Vice-Admiral McGinn was defending Low Frequency Radar as the lesser of two evils at the time of this testimony.

In a recent document, the Navy after reviewing numerous laboratory studies on land animals and assuming that marine mammals would be accustomed to more severe pressure changes, arrived at 180 dB as the maximum non-injury sound level for marine mammals. Anything greater would cause damage to lungs and other tissues. *Resonance White Paper*, *entitled "A review of the potential for in vivo tissue damage by exposure to underwater sound,"* dated March 12, 2002, from M.D. Curley, Commanding Officer, Naval Submarine Medical Research Laboratory, to Chief of Naval Operations. High-intensity sounds can result in hemorrhaging in air cavities or other structures, causing internal bleeding, deafness, disorientation and death.

A well-studied incident occurred in the Bahamas in March 2000. Within 24 hours of U.S. Navy operations using active mid-range sonar, 17 whales of four different species stranded along the coasts of three islands in the Bahamas. In June 2000, National Marine Fisheries Service (NMFS) scientists presented preliminary results from the necropsies of five of the six dead whales. The examination ruled out biotoxins, chronic disease, inflammatory disease, neoplasms and fishing- or boat-related injuries. All five whales had tissue damage consistent with an intense acoustic or pressure event: there was hemorrhaging in and around the ears, and other tissues related to sound conduction or production, such as the larynx and auditory fats, showed minor to severe damage. The Navy admitted that the strandings were most likely caused by its sonar transmissions.

Defendant in this case proposed mitigation measures to avoid blasting when whales were within the zone of probable injury. These included the following: supporting an

experienced marine mammal researcher, Dr. Jorge Urban, who helped to investigate the Isla San Jose stranding, in his efforts to detect other strandings; limiting seismic operations to daylight hours, deep water operation and calm seas; reducing the array volume; revising the track lines; and posting observers on deck.

The beaked whales that stranded near the Research Project operations are not only highly sensitive to sound, they are also easily spooked by motor vessels and tend to dive at their approach. They also feed at deep water levels. Hence, these whales are not only particularly susceptible to acoustic injury, they are also very difficult to spot, and therefore efforts to cease operations when whales are in sight, or to limit blasting to deeper water, will most likely not prevent injury to these whales. The Gulf of California contains one of the highest concentrations of Cuvier beaked whales in the world. Conducting acoustic blasting there at 260 decibels, over 80 decibels higher than the threshold established by Navy tests, is highly likely to injure whales or drive them from the area.

While Defendant argues that Plaintiff cannot show a causal connection between the acoustic blasting and the two stranded whales in this case, such a direct link is not necessary for a court to grant injunctive relief.[7] The Ninth Circuit has reversed the denial of a preliminary injunction where the Park Service failure to prepare an EIS. The court found that the agency decision to allow increased cruise ship traffic in an area important to humpback whales threatened a risk of injury to the whales, as well as a host of other marine species, and satisfied the standard for injunctive relief at 727. *National Parks and Conservation Ass'n v. Babbitt*, 241 F.3d 722, 727 (9th Cir. 2001). The court noted that "[t]he acoustic environment appears to be very important to humpback whales," and that the noise from the cruise ships

[7] Any factual issues regarding causation can be resolved at a hearing on a notice for preliminary injunction.

threatened to impact the whales' biologically significant activities such as social ordering, feeding, courtship and alarm.

The *Ewing's* airguns send out blasts at a sound level recognized to be in excess of what would cause significant harm to an important biological activity in 95% of marine mammals exposed to it. NMFS scientists testified that given their behavior and the difficulty of visually surveying for beaked whales, none of the mitigation procedures adopted by the project after the strandings were likely to provide actual relief. These whales tend to dive at the approach of a motor vessel and are thus difficult to detect by an on-deck observer. Therefore, if the airgun blasting continues, it is virtually inevitable that marine mammals will be injured, resulting in irreparable harm to the environment.

Credible scientific evidence indicates that noise at a level of 180 dB at the source is harmful to 95% of marine mammals within 1 kilometer. The likelihood of irreparable harm to marine mammals (death, serious injury or habitat abandonment) from noise at the level of 260 dB at the source is so high that the temporary restraining order should be granted. For all the above reasons,

IT IS HEREBY ORDERED THAT Plaintiff's Motion for a Temporary Restraining Order is granted. Defendant National Science Foundation shall immediately suspend all seismic research that involves the use of airguns from the *R/V Maurice Ewing* in the Gulf of California until further order of this court.

IT IS FURTHER ORDERED that Plaintiff shall serve this order on Defendant on October 30, 2002.

This court hereby waives bond in light of the following: that Defendant has not demonstrated that it would incur additional expense as a result of obeying this order, that

Plaintiff is a non-profit organization and that important questions are involved. Federal Rules of Civil Procedure 65(c), 28 U.S.C.

IT IS SO ORDERED.

DATED: October 30, 2002

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James Larson
United States Magistrate Judge

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